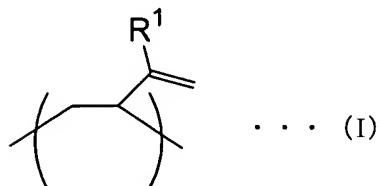


AMENDMENTS TO THE CLAIMS

1. (Original) An isoprene-based polymer including a structural unit represented by

Formula (I):



wherein R¹ represents an alkyl group having 1 to 10 carbon atoms or an alkenyl group having 1 to 10 carbon atoms,

wherein the isotacticity of an arrangement of the structural units is 60%mm or more in terms of triad content.

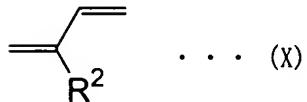
2. (Original) The polymer according to Claim 1, wherein R¹ in Formula (I) is a methyl group.

3. (Currently amended) The polymer according to Claim 1 ~~or 2~~, wherein the isotacticity is 99%mmmm or more in terms of pentad content.

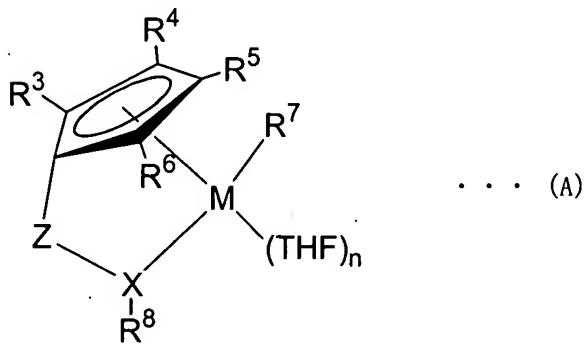
4. (Currently amended) The isoprene-based polymer according to ~~any one of Claims 1 to 3~~ Claim 1, wherein the rate of the structural units represented by Formula (I) in a microstructure is 95% or more.

5. (Currently amended) The polymer according to ~~any one of Claims 1 to 4~~ Claim 1, wherein the polymer has a number average molecular weight of 5,000 to 6,000,000.

6. (Currently amended) A production method for the isoprene-based polymer according to ~~any one of Claims 1 to 5~~ Claim 1, which comprises; polymerizing an isoprene-based compound represented by the following Formula (X):



wherein R² represents an alkyl group having 1 to 10 carbon atoms or an alkenyl group having 1 to 10 carbon atoms, in the presence of a polymerization catalyst containing a complex represented by the following Formula (A):



wherein M represents a rare-earth metal atom, each of R³ to R⁶ independently represents a hydrogen atom or an alkyl group, R⁷ represents an alkyl group, R⁸ represents an aryl or alkyl group, THF represents a tetrahydrofuran ligand, n denotes an integer of 0 to 2, X represents N, P, or As, and Z represents a dialkylsilylene, dialkyl germanium cross-linking, or ethylene group.

7. (Original) The production method according to Claim 6, wherein R² in Formula (X) is a methyl group.

8. (Currently amended) The production method according to Claim 6 or 7, wherein the polymerization is solution polymerization, and the polymerization reaction temperature is 0°C or lower.